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(54) **SYSTEM AND METHOD FOR USING A PREPAID CARD**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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(52) U.S. Cl. 379/144.01; 379/144.04; 379/114.15; 379/114.19; 379/114.2; 235/379; 235/380

(58) Field of Search 379/112, 114.01, 379/115, 116, 144.04, 145, 114.15–114.2; 235/2, 375, 379–380; 902/27

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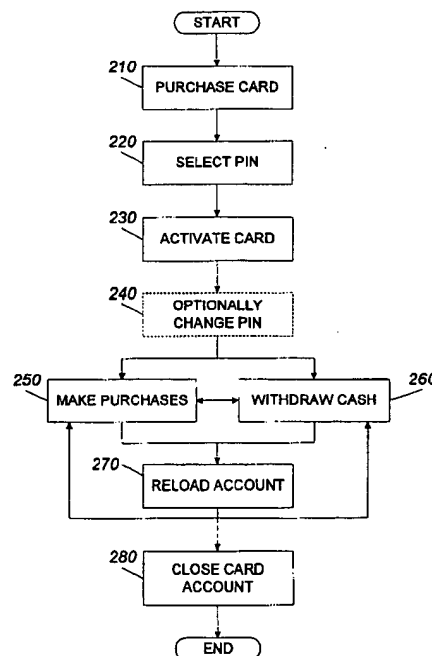|					
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(57) **ABSTRACT**

A system for using a prepaid card permits a card user to purchase a card, issued by an issuer such as a bank, through an agent at a retail establishment via a terminal, select a PIN, have the card activated at the point of purchase, use the card to purchase goods and services, and reload the card for future use. The system uses a communications network for issuance, activation, and accounting, and activation is accomplished on a real-time basis, either one account at a time or in a batch mode. The card can be used to purchase a wide range of goods and services including telephone services. The card can also be used to make cash withdrawals at an ATM or a point-of-sale terminal.

73 Claims, 14 Drawing Sheets

Abstract Text - ABTX (1):

A system for using a prepaid card permits a card user to purchase a card, issued by an issuer such as a bank, through an agent at a retail establishment via a terminal, select a PIN, have the card activated at the point of purchase, use the card to purchase goods and services, and **reload** the card for future use. The system uses a communications network for issuance, activation, and accounting, and activation is accomplished on a real-time basis, either one account at a time or in a batch mode. The card can be used to purchase a wide range of goods and services including telephone services. The card can also be used to make cash withdrawals at an ATM or a point-of-sale terminal.

US Patent No. - PN (1):

6473500

Detailed Description Text - DETX (28):

The process described above is preferably performed in real-time. However, two more steps do not have to be performed in real-time and are preferably performed only about once a day. In step 424, agent 104 deposits with issuer 410 the money received from all card users 10. In step 426, PDC 404 transmits to issuer 410 over the communications network the net result of new value placed in card & account file 406 for the cards associated with that particular issuer and any decrements to those accounts as a result of purchases, withdrawals, **reloads,** and fees.

Detailed Description Text - DETX (29):

As compared with the "agent" or "terminal" activation depicted in FIG. 4, which activates one account at a time, more than one prepaid card account can be set up and activated at once in a process called "batch activation," which typically involves a program sponsor. A flowchart of a process of the invention including batch activation is illustrated in FIG. 5a. Initially, the program sponsor records the card number associated with each recipient and, in step 502, assigns a PIN (or has a PIN assigned) to each card number. In step 504, the program sponsor via the PDC activates the cards by transmitting to the PDC via the issuer the card number, PIN, and value added to each card account. In step 506, the program sponsor distributes each card and, with the card or separately, transmits (via mail, electronic means, or other means) the assigned PIN to the recipient. The program sponsor can set an effective date from which the card may be used. Once the card and PIN are received, in step 508, the recipient has the option to change the PIN to one that can be more easily remembered. This can be done by calling a customer service number or changing the PIN at an agent terminal, at an ATM, or through an IVRU or some other approved device. After the effective date, the recipient can use the card in the same manner as any prepaid card, allowing card user 10 in step 510 to make purchases or withdraw cash. In step 512, card user 10 can **reload** the card account just as was done earlier in step 270. At any regular or variable interval, as indicated in step 514, the program sponsor **reloads** the card account by adding value to it, and the card can again be used immediately by card user 10. The program sponsor has the option of closing the card account in step 516, which also includes refunding the balance of value remaining in the card account.

Detailed Description Text - DETX (38):

FIG. 7a includes the same elements as shown in FIG. 4. In step 712, card user 10 provides to agent 104 card 100 along with payment in cash, check, credit, or debit form. PDC 404, or, alternatively, the agent, may deduct

transaction or processing fees, in which case something less than the full value of the payment will be added to the card account. In step 714, card user 10 inputs his or her PIN to agent terminal 402, and, in step 716, agent terminal 402 transmits to PDC 404 the card number, PIN, value to be placed in the account for card 100, and the transaction code, in this case "reload." In step 718, PDC 404 checks the Card File to verify that the PIN matches and that all other issuer- or PDC-specified criteria have been met and adds the reloaded value to the card account and to the Account file. In step 720, PDC 404 transmits to agent terminal 402 whether the transaction has been completed or denied and, if completed, that the card account has been reloaded. In step 722, agent 104 gives back card 100 to card user 10, and card 100 is again ready for use.

Detailed Description Text - DETX (40):

Batch reloading is similar to batch activation and includes the same elements as FIG. 5b. In step 732, program sponsor 522 transmits (either directly or through its issuer) to PDC 404 a batch file that includes the card number, the amount to be added to the card account, and the transaction code (i.e., "reload"). In step 734, PDC 404 adds the reloaded value to the card account and to the Account file. A PIN is not used nor needed in batch loading mode. Step 734 is repeated for each card included in the batch file. When the processing is complete, in step 736, PDC 404 transmits to program sponsor 522 or its issuer that the card accounts have been reloaded. In step 738, program sponsor 522 or its issuer notifies each cardholder that card 100 has been reloaded.

Detailed Description Text - DETX (51):

This process illustrates using the prepaid telephone card without being able to **reload** the card account while on the telephone. However, the process can be modified to allow a card user to **reload** the prepaid card account while on the telephone, using a separate credit or debit card or other form of payment. Blocks 960a and 960b illustrate the steps included in this modification, describing, respectively, reloading the card before the phone call is made and reloading during the phone call. The dashed arrows indicate departures from the main process to incorporate this modification.

Detailed Description Text - DETX (52):

In step 930, the main process notifies the user how much time is left in the card account. At that point, step 946 then asks whether the card user wants to **reload** the card account, for example, if the card user anticipates a call longer than the remaining units of time determined by the TELCO. If the phone time remaining in the card account is sufficient and the card user does not want to **reload** the card account, step 932 connects the call. However, if the card user does want to **reload** the card account, step 948 calls a **reload** subroutine, illustrated in FIG. 9c, which **reloads** a prepaid card account using the separate credit or debit card.

Detailed Description Text - DETX (53):

The **reload** subroutine operates as follows. In step 970 in FIG. 9c, as a security measure, card user 10 inputs the PIN again. In step 972, the card user inputs using the telephone keys (or by swiping the card in the phone) the credit or debit card number that is to be used as the source of **reload** value and the amount of value he or she wants to add to the prepaid card account. In step 974, PDC 404 transmits the information to the appropriate payment processor and receives approval in step 976. In step 978, PDC 404 transmits to the TELCO the increase in value in the card account, the prepaid telephone card account is now reloaded, and the card user is returned to the process in FIG. 9b.

Detailed Description Text - DETX (54):

Once reloaded, step 930 is repeated in which the TELCO notifies the card user how much phone time remains in the card account. Step 946 again asks whether the card user wants to **reload** the card account, to which the card user might answer affirmatively, but most likely answers "no." In that case, in step 932, the TELCO connects the call. The call continues with the time decrement loop of the main process. However, when step 942 notifies the user that one minute remains, step 950 gives the card user the option of immediately reloading the card account. If the card user decides not to **reload** the card account, step 944 will disconnect the phone as before when the time expires and update the TELCO card and account file to reflect a zero balance on the card. If the card user does decide to **reload** the card account, step 952 suspends the call and step 954 calls the **reload**

subroutine described above. Once the card is reloaded, in step 956, the TELCO notifies the card user how much phone time remains on the card, step 958 reactivates the call, and the time decrement loop resumes.

Detailed Description Text - DETX (55):

In a process similar to the one illustrated in FIG. 7a, the card account can be reloaded when the card user is away from the telephone. In step 980 in FIG. 9d, card user 10 provides to the agent, in the form cash, check, credit, or debit, the amount of money the card user want to place in the card account. In step 982, card user 10 inputs the PIN and the desired **reload** amount, and the agent transmits the card number, PIN, and **reload** amount to the PDC. The PDC accesses the TELCO, the TELCO checks its card file to verify that the PIN matches and that all other required criteria have been met, adds the reloaded value to the value in the account, and adds the reloaded value to the account file. In step 988, the TELCO acknowledges that the card account has been reloaded, and in 990, the card is again ready for use.

Detailed Description Text - DETX (57):

Payroll fulfillment is one example of batch activation illustrated in FIGS. 5a-5b. In the payroll fulfillment embodiment, instead of issuing paychecks or transferring wages to employees via Direct Deposit to an individual bank account, an employer pays its employees using the prepaid cards. The employer records the card number associated with each employee and assigns a PIN to each card number. The employer activates each card, loading into each card account the appropriate wage amount for each employee, distributes the card, and transmits to the employee, with the card or separately (via mail, electronic means, or other means), the assigned PIN. Once the card and PIN are received, the employee can change the PIN to one that can be more easily remembered. This can be done by calling a customer service number or by changing the PIN at a POS terminal, an agent terminal, an ATM, or some other approved device. Once value is in the card account, the employee can immediately begin to use the card. The card can now be used in the same manner as any prepaid card, allowing the employee to make purchases, withdraw cash, or **reload** the card. Because this card is a payroll card, when the next payday arrives, the employer adds the wage value to the card account, and it can again be used immediately by the employee. The employer always has the option of closing the card account, which also includes refunding the balance of value remaining in the account.

Detailed Description Text - DETX (59):

The next application, gift fulfillment, allows a donor to purchase a prepaid card to give to someone else. In the flowchart in FIG. 10a, in step 1002, the donor purchases card 100 by providing payment in cash, check, credit, or debit form to agent terminal 402, just as was done in FIG. 4. In step 1004, the donor inputs the PIN to terminal 106, and, in step 1006, agent terminal 402 begins the activation process by transmitting to PDC 404 the card number, PIN, amount of the gift, and transaction code ("new"). PDC 404 checks to ensure that all issuer- or PDC-specified criteria have been met and, if met, sets up a new card and account file record, and the card is activated. In step 1008, the donor gives the card to the recipient along with the PIN which, in step 1010, the recipient can change immediately, if desired, by calling a customer service number or through an agent terminal, a POS terminal, an ATM, or some other approved device. From then on, the recipient uses the card as in step 1012, may **reload** the card account as in step 1014, and can close the card account, if the recipient so desires, as in step 1016. Such a card is secure before it is given to the recipient, because only the donor knows the PIN. The gift card is also more convenient than a check because it does not have to be cashed and it can be used immediately upon receipt. In addition, card issuer 102 can design the card to appeal to the collectors' market, and the card itself can act as a gift.

Detailed Description Text - DETX (63):

A fourth application is using a prepaid card for transferring money from a sender to a beneficiary. In this application, a money transfer card is sold by prepaid card issuers or their agents in the sender's country, where the sender adds value to the card account. Another card is delivered to the beneficiary, who is likely in a different country, and who is able to make withdrawals at ATMs or purchases at POS terminals. As illustrated in FIG. 10c, in step 1072, the sender purchases card 100 as described in FIG. 4. Alternatively, if the sender already owns a card, the sender can **reload** the current card's account with the amount of value to be transferred. In step 1074, the sender selects a PIN, and, in step 1076, agent terminal 402 via PDC 404 activates the card. In step 1078, a

second card that is able to access the sender's card account is delivered to the beneficiary. The beneficiary, in step 1080, uses the card, and, in step 1082, the sender can **reload** the card account, allowing the beneficiary to continue making purchases and cash withdrawals.

Detailed Description Text - DETX (64):

A fifth application, the corporate relocation card, acts much like a payroll card. This card can be issued to new or current employees who are relocating at the company's expense. The card provides the card user immediate access to ATMs and/or POS terminals, and is used to cover miscellaneous costs associated with the relocation, for example, meals, gas, and other cash outlays. The card account can be reloaded by the employer on an as-needed basis. As illustrated in FIG. 10d, in step 1086, the issuer assigns PINs to card numbers and activates the cards per the employer's instructions. In step 1088, the employer or issuer distributes the card to the relocating employees, and, in step 1090, the employees select a PIN that is more easily remembered. In step 1092, the employees use the card to pay relocation expenses. If the value on the card becomes too low, in step 1094, the employer can **reload** the card account, and the employee can continue to use the card in the same manner. Optionally, the card account can be closed as shown in step 1096.

Examiner's Notes (handwritten)

US006085976A

United States Patent [19]
Sehr

[11] **Patent Number:** 6,085,976

[45] **Date of Patent:** Jul. 11, 2000

[54] **TRAVEL SYSTEM AND METHODS UTILIZING MULTI-APPLICATION PASSENGER CARDS**

[76] Inventor: **Richard P. Sehr,** 2276 Creek Bed Ct., Santa Clara, Calif. 95054

[21] Appl. No.: 09/083,565

[22] Filed: **May 22, 1998**

Related U.S. Application Data

[60] Provisional application No. 60/050,648, Jun. 24, 1997.

[51] Int. Cl.^{7} G06K 5/00
[52] U.S. Cl. 235/384; 235/380; 235/492
[58] Field of Search 235/386, 382, 235/435, 384, 492

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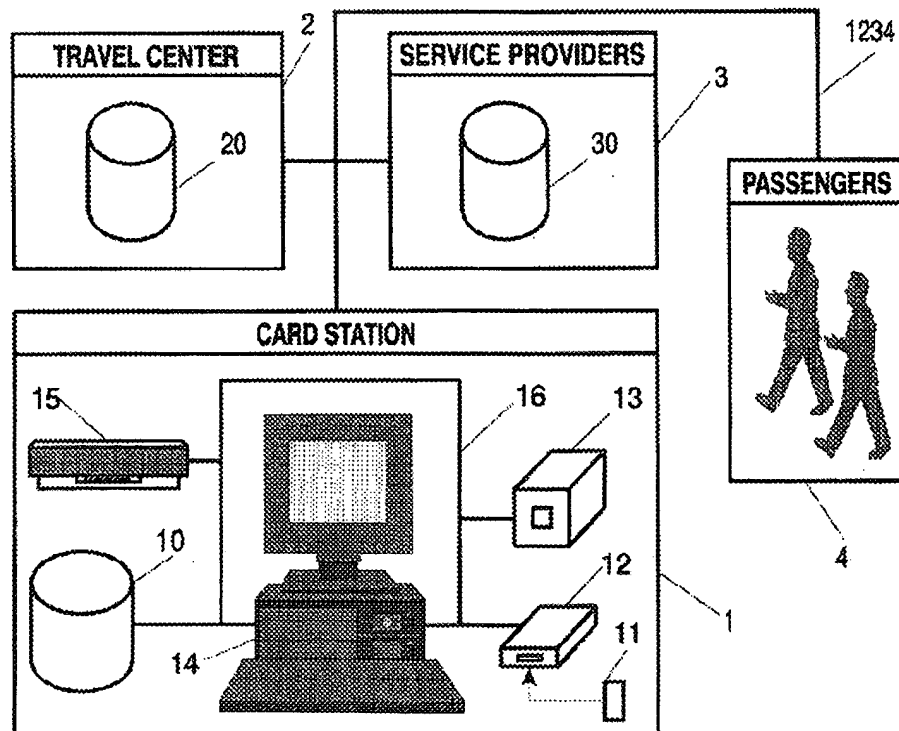#### FOREIGN PATENT DOCUMENTS

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Primary Examiner—Donald Hajec
Assistant Examiner—Diane I. Lee

[57] **ABSTRACT**

A travel system and methods that encompass a plurality of service providers and multi-application passenger cards so as to automatically compile, issue, utilize, and process the portable passenger cards for traveling purposes, purchase of travel-related goods and services, and for the implementation of other card-based applications. The multi-application cards are realized by smart debit and/or credit card technology and have the ability to store and activate a traveler's permit for transportation and other travel services; as well as to host and employ a monetary value for electronic payment means. Biometrics identification of cardholders, as well as cryptographic certification of card data and travel-related information, can optionally be encoded onto the cards and can be verified, including validated, at various point-of-service locations upon presentation of the card for utilization.

9 Claims, 3 Drawing Sheets

TRAVEL CENTER 2 20
SERVICE PROVIDERS 30 3 1234
PASSENGERS 4
CARD STATION 15 16 13 10 14 12 11

Brief Summary Text - BSTX (4):

The functional components encompass, for example, PCs or other computing platforms, POS-terminals and PIN-tablets, ATM-machines, card read/write devices, biometrics boxes and other computer peripherals, and the passenger card per se. These components are connected via a multi-directional communications link to allow the exchange of data/information between and among the systems entities including the cardholder. The system components are off-the-shelf hardware devices that can be purchased from retailers/computer stores, procured from component manufacturers or its distributors, or acquired from providers of networking/communications services. The communication links can be implemented via the **Internet** or any other commercial available, wire-based or wireless network technology.

Detailed Description Text - DETX (6):

The SERVICE PROVIDERS (3) represent the service entities including individuals that support the card's usage and the system's operations while rendering a plurality of products and services to the passengers upon presentation of the passenger card. Such providers include the entities that provide the travel means and transportation carriers, as well as the services that are related to the use thereof. Providers further include a bank or financial institution that stores an electronic monetary value or other electronic payment means in the card, a credit reporting firm that verifies and guarantees the credit worthiness of the cardholder, a transaction processor that clears and credits the electronic payments made via the card, or a certification center that authenticates cardholders and card data. Providers can also comprise fast food vendors, retail outlets, concession stand owners, promoters of collectors cards, or **Internet** service and content providers.

Detailed Description Text - DETX (17):

The components of the card station are connected via a communication link (16) to allow the exchange of data and information throughout the card station. The components, including the station per se, also are connected via a global communication link (1234) to the rest of system entities. The data links can be implemented via any commercially available wired or wireless technology, such as cable/telephone lines, **Internet** service networks, or other digital or analog telecommunications media.

Detailed Description Text - DETX (38):

The electronic payment forms comprise payment options that represent currencies or other traditional paper/plastic-based banking cards via an electronic monetary value stored in the passenger card. Associated with these forms is a set of account information, such as the maximum debit/credit limit, effective and expiration dates, cumulative amount spent so far via that form, and the balance remaining in the card for further purchases. The forms can also simulate those traditional payment means while automating the authorization and clearing tasks via electronic data links to communicate with the appropriate transaction processors. The payment forms can further comprise promissory notes endorsed by a non-banking entity, such as the transport provider, and accepted by the service providers for the purchase of goods and services. For instance, such type of notes can represent electronic payment points that will be settled by the entity the way commercial banks clear payments made via their paper/plastic cards; the settlement occurs after the points have been forwarded by the provider that accepted such points as legal tender. The payment forms can be identified via a particular name, specific account number, or via any other unique identifier. If a particular payment form is used for a purchase, the card-based balance will be compared with the payment due for that purchase. If this remaining balance is equal to or greater than the due payment, the card-based payment form, including the stored monetary value, can be used to pay for the related merchandise or service. When approved by the cardholder, the payment due will be deducted from the remaining balance and forwarded to the merchant. If a card-based payment is used, the payment due

will also be added to the cumulative spending amount which reduces the remaining balance accordingly; the cumulative spending amount is deducted from the maximum debit/credit limit to yield the remaining balance. If the payment due is more than the remaining balance, the selected payment form cannot be used for payment; the remaining balance has to be augmented or another payment means used. The remaining balance can be increased by reducing the cumulative spending amount and/or by increasing the maximum limit associated with that particular payment form. This can be achieved, for example, by the cardholder paying off at least a portion of the balance owed to a bank, and by the bank reducing in response thereto the spending amount accumulated in the card. Or, the bank can increase the credit/debit limit for that payment form, and store the higher maximum amount into the passenger card; the increased amount will **recharge** the depleted amounts. The cardholder can also augment the remaining balance by transferring a monetary value from another payment form, or downloading some payment points, to increase the maximum amount or lower the cumulative spending amount stored in the card.

Detailed Description Text - DETX (39):

The card types comprise a plurality of card configuration templates, as well as electronic pointers and built-in communication links to those templates and to remote database information, that support the multi-application scenarios via a single passenger card. The templates provide the structure for the various card contents that are configured to specific application needs. Such a structure comprises, for example, the framework for a predetermined number and type of data elements, including the various formats and related contents for those data elements, that will be stored throughout a set of predefined data fields in the passenger card. Selected data elements can also be imprinted onto the card package. The knowledge-based pointers locate the card templates via a unique configuration number or application code, retrieve the template, and display the structure associated therewith, so as to allow the viewing and/or inputting of data. The data communication links allow the exchange of information between and among the card contents and remote system databases. To implement a multiple application scenario, the passenger card evokes a set of application-specific applets that are tailored to a particular application task. These applets are just-in-time software programs that are highly modular and machine-independent. In this way, these software applets are reusable and reconfigurable to serve new or multiple applications with the same passenger card. The applets can also be dispatched across a network of service providers, such as the **Internet,** and assembled dynamically on any point-of-service for a specific application, regardless of location or type of computing platform installed at those providers. Let's consider, for instance, a multicarrier passenger card that entitles the cardholder to use a predetermined number of transportation carriers for a particular itinerary or over a predefined time period. When presented for service, the passenger card will locate, retrieve and trigger the appropriate software applets to authenticate the card and to identify the cardholder, gain admission to the premises where those carriers are stationed, validate the boarding of the carriers, compile the necessary connections, and verify the time-related restrictions.

United States Patent [19]

Goldman

[11] Patent Number: 5,629,867

[45] Date of Patent: May 13, 1997

[54] **SELECTION AND RETRIEVAL OF MUSIC FROM A DIGITAL DATABASE**

[76] Inventor: **Robert J. Goldman**, 100 W. Broadway, #7P, Long Beach, N.Y. 11561

[21] Appl. No.: **186,302**

[22] Filed: **Jan. 25, 1994**

[51] Int. Cl.^{6} H04H 1/00

[52] U.S. Cl. .... 364/514 R; 364/922.7; 381/77; 381/80

[58] Field of Search .... 364/514 A, 514 B, 364/514 C, 514 R, 922.7; 381/77, 80; 395/600, 934

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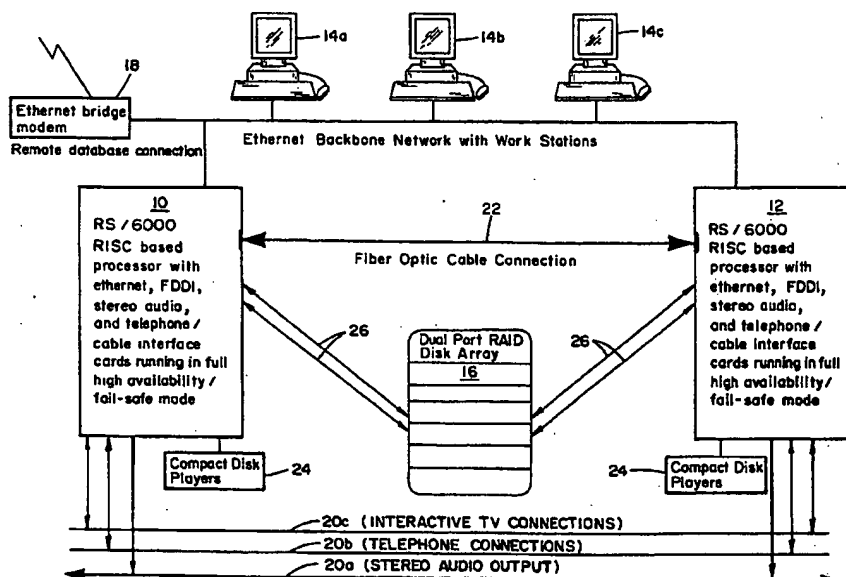
Primary Examiner—Emanuel T. Voeltz
Assistant Examiner—Patrick J. Assouad
Attorney, Agent, or Firm—Scully, Scott, Murphy and Presser

[57] **ABSTRACT**

A digital radio broadcast station which includes a single on-line digital database having stored therein a plurality of at least several hundred (preferably at least 1800) different selections of music to be played and broadcast by the radio station. A processor system is provided for programming the operation of the digital radio broadcast station with a sequence of music selections, which are subsequently retrieved in order from the common digital database and played over the digital radio broadcast station. The single on-line digital database comprises a disk array storage, preferably a dual port RAID disk array. The digital radio broadcast station also includes a plurality of work station consoles for use by personnel responsible for operating the radio station such as disc jockeys and engineers. A bridge network such as a modem is also provided for connecting the radio station to a further digital database for music selections not stored in the common digital database. The processor system is provided with a connection to a telephone network, such that radio station callers can communicate with the radio station by a touch tone telephone, and is also provided with a connection to an interactive cable television network, such that cable television viewers can communicate with the radio station over the interactive cable television network.

10 Claims, 1 Drawing Sheet

US-PAT-NO: 5629867

DOCUMENT-IDENTIFIER: US 5629867 A

TITLE: Selection and retrieval of music from a digital database

---------- KWIC ---------

Pursuant to the teachings of the present invention, at least one processor 10 is required, but to provide for optimum performance, a processor system based on RISC (Reduced Instruction Set Computing) architecture using **two processors** 10, 12 is preferred. The processors 10, 12 accommodate the retrieval and output of music stored in memory while providing multiple users concurrent access to the system.

d. FDDI (Fiber Data Distributed Interchange) which is a Fiber adapter (single ring) port for fiber optic connections 22 between the **two processors**;

Although not recommended, the dual RISC configuration can be **replaced by a single processor** or by one based upon a different architecture such as a personal computer. However, if this substitution is made, poor system performance or reliability may result.